



Ruptured non-communicating rudimentary horn of unicornuate uterus at 14 weeks of pregnancy: a case report

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ABSTRACT

Rudimentary horn is one of the rarest congenital uterine anomalies and consists of a relatively normal appearing uterus on one side with a rudimentary horn on the other side. Pregnancy in the rudimentary horn of the uterus is a rare form of ectopic pregnancy of which most of the patients present in second trimester in haemorrhagic shock and severe anaemia due to rupture. We report a case of ruptured rudimentary horn at 14 weeks of pregnancy with shock and severe anaemia. A 30 yr old G₂P₁L₁ with last child birth 4 yrs back reported to casualty with acute abdominal pain since 3 hrs, bleeding PV and vomiting since one hr. Ultrasound done showed haemoperitoneum with fetus of 14 weeks. Emergency laparotomy was done with excision of the rudimentary horn was done.

Keywords: Rudimentary horn, Mullerian, unicornuate uterus, fetus

INTRODUCTION

Mullerian duct anomalies in female result from incomplete fusion or defective absorption during embryonic life. The incidence of mullerian duct anomalies in general population is found to be 3.4%. Rudimentary horn is rarest uterine anomaly. Unicornuate uterus with rudimentary horn is 1:1,00,000. Pregnancy in rudimentary horn is even rare i.e. 1:76,000 and 1:1,40,000 pregnancies.¹ It is usually associated with obstetrical complications including miscarriage, ectopic pregnancy, uterine rupture, preterm labour, malpresentations. Renal anomaly is found in 36% of the cases.² Conception in rudimentary horn arises from a small communication with the uterine cavity (communicating) or by transperitoneal migration of the fertilised ovum from the contralateral side (non communicating). The most significant threat of a rudimentary horn pregnancy is the risk of rupture (usually in the second trimester) because of poorly developed musculature and this pregnancy commonly presents with abdominal pain which may occur before or after rupture.³ For diagnosis, the magnetic resonance imaging provides a considerably improved and accurate means of

diagnosis and identifying mullerian anomalies, also three dimensional sonography offers advantage over two dimensional scanning as it provides fine anatomical details useful for preoperative planning but confirmation of diagnosis is usually surgical at laparoscopy or laparotomy.⁴ Treatment is excision of rudimentary horn, although semi or total hysterectomy may be necessary to save the life of woman.

CASE REPORT

A 30-year-old woman from Karsog married since 6 yrs presented to casualty with acute abdominal pain since 3 hrs, bleeding PV since 6 hrs, vomiting and dizziness for which gynaecological consultation was sought. On history, she was married for 6 yrs and her last child birth was 4 yrs back which was FTND, female child alive and healthy. Her postpartum period was uneventful. Her menstrual cycles were regular coming after 30-32 days, bleeding lasting for 4-5 days without dysmenorrhoea. According to her LMP she was 14 weeks 3 days.

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On examination she was conscious, oriented, pale, PR 126/min, low volume, blood pressure 80/60 mm Hg. Abdomen was distended with generalised tenderness, uterus could not be palpated. On per vaginal examination there was slight vaginal bleeding, uterus size could not be made out, bilateral fornices were full, cervical motion tenderness was present. Diagnosis of haemoperitoneum from a possible extrauterine pregnancy was made. Bed side scan was done which showed haemoperitoneum with viable 14 weeks fetus in left adnexa. Urgent laparotomy was decided after arranging blood and complete blood count was sent.

Intraoperatively there was 2 litres of haemoperitoneum and fetus with intact amniotic

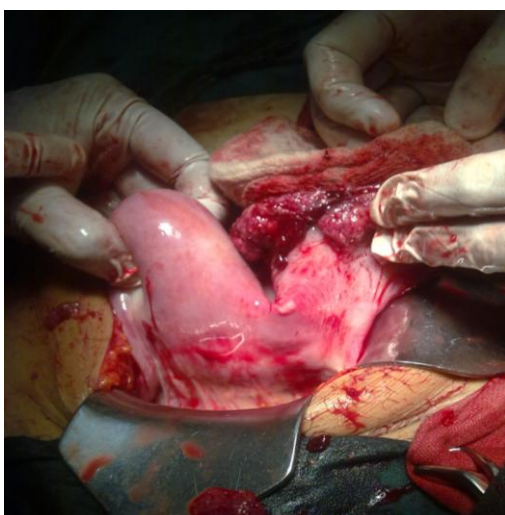
was seen (**Figure 1**). Rupture in left rudimentary horn of the uterus was seen which was not communicating (**Figure 2**). The uterus was enlarged with normal right tube and ovary. The left fallopian tube and ovary was normal. Excision of left ruptured rudimentary horn with the fallopian tube was done which was not communicating with the uterus. She received 5 units of blood transfusion and her postoperative period was uneventful and she recovered well. She was counselled for family planning and was advised elective caesarean section for future pregnancy. She was advised intravenous pyelography to rule out renal anomalies. She was discharged on 8th postoperative day.



Figure 1 Fetus with intact amniotic sac



Figure 2 Rudimentary horn with rupture



Intraoperative photo showing anterior view of uterus with rudimentary horn attached to the left which is ruptured



Fetus which was inside the horn

DISCUSSION

Unicornuate uterus with rudimentary horn is non-communicating in 83% cases. The rudimentary horn results from malformation of the Mullerian duct by failure of complete development of one duct and incomplete fusion of other duct.⁴ Maternal mortality rate is 5.1%, although, none was reported after 1960.⁵ Rupture of rudimentary horn of the uterus is one of the remote causes of acute abdomen with pregnancy. However, missing the diagnosis can lead to fatal complications while early detection can save the life of the patient. Diagnosis prior to rupture is unusual, but could be made with ultrasonography and MRI.

Tsafir et al outlined a set of criteria for diagnosing pregnancy in the rudimentary horn. They are: 1) A pseudo pattern of asymmetrical bicornuate uterus; 2) Absent visual continuity tissue surrounding the gestational sac and the uterine cervix; 3) Presence of myometrial tissue surrounding the gestation sac.⁶ Nonetheless most cases remain undiagnosed until it ruptures and presents as an emergency.

In this form of ectopic pregnancy implantation occurs in the cavity of rudimentary horn of the uterus, the horn in this case was non-communicating with the rest of the uterine cavity, it must be assumed that sperm ascend through the other horn of the uterus and gets fertilised with the ovum in the peritoneal cavity. This then enters the tube of rudimentary horn.

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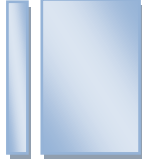
In our patient, diagnosis of extrauterine pregnancy was established as she was 14 weeks and in hypovolemic shock. The non communicating rudimentary horn rupture was confirmed intraoperatively and removal of rudimentary horn with fallopian tube was done. This was done to reduce the risk of having another ectopic pregnancy in future. Recently different methods of treatment have been described. Cases were treated by laparoscopy using various techniques or administration of methotrexate for termination of an early pregnancy in a rudimentary horn followed by elective a laparoscopic resection.^{7,8}

31% patients with mullerian anomalies will have urinary anomalies with congenital absence of a kidney;; in these cases, it is mandatory to have future assessment as it was advised in our patient.⁹ 90% of rudimentary horn pregnancies usually end with rupture and fetal demise. However, live birth cases have been reported after caesarean, for pregnancies which have progressed to third trimester.¹⁰

CONCLUSION

Pregnancy in a non communicating rudimentary horn is rare and carries grave consequences for the mother and the fetus. Therefore, high index of suspicion is warranted to detect this rare and very important complication of pregnancy before uterine rupture occurs. Excision of rudimentary horn is advised life threatening massive intraperitoneal haemorrhage and maternal mortality.

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